

INTEGRATED CIRCUIT STRUCTURES AND METHODS EMPLOYING  
A LOW MODULUS HIGH ELONGATION PHOTODIELECTRIC

Abstract of the Disclosure

Structures and methods are provided for absorbing  
5 stress between a first electrical structure and a second  
electrical structure connected together, wherein the  
first and second structures have different coefficients  
of thermal expansion. A dielectric material is disposed  
on at least one of the first and second electrical  
10 structures. This dielectric material is a low modulus  
material which has a high ultimate elongation property  
(LMHE dielectric). Preferably, the LMHE dielectric has a  
Young's modulus of less than 50,000 psi and an ultimate  
elongation property of at least 20 percent. The LMHE  
15 dielectric can be photo patternable to facilitate  
formation of via openings therein and a metal layer is  
formed above the LMHE dielectric which has conductors  
capable of expanding or contracting with the dielectric.  
Conductors of the metal layer disposed above the  
20 dielectric and connected to vias in the dielectric have a  
length significantly greater than the maximum  
displacement due to thermal expansion between the first  
and second electrical structures, e.g., a length which is  
at least five times the displacement.